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EXAMINER

ROBINSON BOYCE, AKIBA K

ART UNIT PAPER NUMBER

3623

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/741,958

Applicant(s)

NEAL ET AL.

Examiner

Akiba K Robinson-Boyce

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Status of Claims*

1. Due to communications filed 12/20/00, the following is a non-final first office action. Claims 1-13 are pending in this application and have been examined on the merits. Claims 1-13 are rejected as follows.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, are rejected under 35 U.S.C. 102(a,e) as being anticipated by Ouimet et al (US 6,094,641).

As per claim 1, Ouimet discloses:

an econometric engine for modeling sales as a function of price to create a sales model, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price]);

a financial model engine for modeling costs to create a cost model, (col. 4, lines 52-53, [pricing model]); and

an optimization engine coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices, (Col. 5, lines 45-48, [using fitted, modified demand model to determine price that will maximize profits, {optimization})).

As per claim 4, Ouimet '641 discloses:

creating a sales model, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price]);

creating a cost model, (col. 4, lines 52-53, [pricing model]); and

generating the preferred set of prices for the plurality of products based on the sales model and cost model, (Col. 5, lines 45-48, [using fitted, modified demand model to determine price that will maximize profits, {optimization})).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,094,641) as applied to claim 1 above, and further in view of Ouimet et al (US 6,308,162).

As per claim 2, Ouimet '641 discloses:

a price calculator connected to the rule tool, the financial model engine, and the econometric engine, wherein the price calculator determines the preferred set of prices based on rule parameters, the sales model, and the cost model, (Col. 8, lines 18-20, [shows calculating], col. 5, lines 50-55 and 60-65, [see equations listed where calculating is done via the equations])

Ouimet '641 fails to disclose a rule tool, which stores a plurality of rule parameters, but does disclose a routine in col. 6, lines 6-8, where rules must be present in order to successfully process the routine. However, Ouimet '162 discloses the following:

a rule tool, which stores a plurality of rule parameters, (col. 1, lines 30-34, [rule based approach]). Ouimet '162 discloses this limitation in an analogous art for the purpose of showing that rules are used in an approach to optimize models.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize a rule tool with the motivation of going through the process of optimizing models to determine prices in a logical manner.

As per claim 3, Ouimet '641 discloses:

further comprising a support tool connected to the optimization engine wherein the support tool receives the preferred set of prices from the optimization engine and provides a user interface to a client, wherein the user interface provides the preferred set of prices to the client, (col. 6, lines 17-26, [provided with list], w/ Fig. 1, {102}, [display]).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,094,641) as applied to claim 1 above, and further in view of Ouimet et al (US 6,078,893).

As per claim 5, Ouimet '641 discloses:

creating a sales model... (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price])

Ouimet '641 fails to disclose creating a plurality of demand groups, wherein each demand group is a set of at least one product and wherein at least one of the demand groups is a set of at least two products, but does disclose utilizing demand models to predict prices in the abstract, lines 1-5.

However, Ouimet '893 discloses creating a plurality of demand groups, wherein each demand group is a set of at least one product and wherein at least one of the demand groups is a set of at least two products, (col. 8, lines 29-35, [selecting demand model by breaking up a retailer's market into smaller groups]). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that groups are used to determine demand.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to create a plurality of demand groups with the motivation of optimizing models according to categories.

Ouimet '641 fails to disclose creating a market share model for each product in each demand group, but does disclose the utilization of a demand model to optimize prices.

However, Ouimet '893 discloses:

creating a market share model for each product in each demand group, (col. 8, lines 35-37, [maximize market share by using demand model]). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that market share can be modeled and maximized by using the demand model.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to create a market share model for each product in each demand group with the motivation of determining market shares according to categories.

7. Claims 6, 7, 8, 10, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,094,641), and further in view of Hartman et al (6,725,208).

As per claim 6, Ouimet et al

an econometric engine for modeling sales as a function of price to create a sales model, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price]);

a financial model engine for modeling costs to create a cost model, (col. 4, lines 52-53, [pricing model])

an optimization engine coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices, (Col. 5, lines 45-48, [using fitted, modified demand model to determine price that will maximize profits, {optimization}]).

Ouimet et al '641 fails to disclose based on Bayesian modeling, but does disclose utilizing demand models to optimize prices in the abstract, lines 1-5.

However, Hartman et al discloses:

Based on Bayesian modeling, (Abstract, lines 1-4, shows Bayesian modeling used for optimization]). Hartman et al discloses this limitation in an analogous art for the purpose of show in that Bayesian modeling can be used to determine optimal prices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize Bayesian modeling with the motivation of processing a particular optimization technique to determine prices.

As per claims 7 and 8, Ouimet et al '641 fails to disclose wherein the Bayesian model is a Bayesian Shrinkage model or where the Bayesian Shrinkage model is a multi-stage model, but does disclose utilizing demand models to optimize prices in the abstract, lines 1-5.

Official notice is taken that it is old and well known in the art for Bayesian models to be Bayesian Shrinkage models and for the Bayesian Shrinkage models to be multi-stage models. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the Bayesian models to be Bayesian Shrinkage models and for the Bayesian Shrinkage models to be multi-stage models with the motivation of using these types of models to effectively come up with optimization results through a step-by-step process.

As per claim 10, Ouimet et al '641 discloses:



wherein the market conditions include a price point, (col. 7, lines 44-48, [price point])

As per claim 11, Ouimet et al '641 fails to disclose wherein the econometric engine divides the plurality of products into a plurality of demand groups, where at least one of said demand groups has at least two of said products in said at least one demand group, but does disclose utilizing demand models to predict prices in the abstract, lines 1-5.

However, Ouimet '893 discloses divides the plurality of products into a plurality of demand groups, where at least one of said demand groups has at least two of said products in said at least one demand group, (col. 8, lines 29-35, [selecting demand model by breaking up a retailer's market into smaller groups]). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that groups are used to determine demand.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to divide the plurality of products into a plurality of demand groups, where at least one of said demand groups has at least two of said products in said at least one demand group with the motivation of optimizing models according to categories.

As per claim 12, Ouimet et al '641 fails to disclose wherein the econometric engine generates a market share model for said products in said demand groups, but does disclose the utilization of a demand model to optimize prices.

However, Ouimet '893 discloses:

wherein the econometric engine generates a market share model for said products in said demand group, (col. 8, lines 35-37, [maximize market share by using demand model]). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that market share can be modeled and maximized by using the demand model.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to generate a market share model for said products in said demand group with the motivation of determining market shares according to categories.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,094,641) as applied to claim 6 above, and further in view of Hartman et al (6,725,208), and further in view of Ouimet et al (US 6,078,893).

As per claim 9, neither Ouimet et al '641 nor Hartman et al disclose wherein the econometric engine provides demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions, but Ouimet '641 does disclose using demand models to create optimized outputs in the abstract, lines 1-17.

However, Ouimet et al '893 discloses:

wherein the econometric engine provides demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions, (Col. 13, lines 49-55, [item-specific coefficients]). Ouimet et al '893 discloses this

limitation in an analogous art for the purpose of showing that coefficients for specific items can be used to optimized prices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions with the motivation of utilizing coefficients to convert optimized figures according to certain conditions.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,094,641) as applied to claim 6 above, and further in view of Hartman et al (6,725,208), and further in view of Ouimet et al (6,308,162).

As per claim 13, neither Ouimet et al '641 not Hartman et al disclose As per claim 13, Ouimet et al '641 fails to disclose wherein the econometric engine determines a sales model for each demand group so that the optimization engine is able to calculate demand for said products by multiplying the market share model for said products with the sales model for the demand group to which the product belongs, but does disclose determining an optimized model in the abstract, lines 16-17.

However, Ouimet et al '162 discloses:

As per claim 13, Ouimet et al '641 fails to disclose wherein the econometric engine determines a sales model for each demand group so that the optimization engine is able to calculate demand for said products by multiplying the market share model for said products with the sales model for the demand group to which the product belongs, (col. 2, lines 15-17, [shown that the primary objective function is combined with

the constraint function and multiplied by a weighing factor, resulting in an optimized objective function, w/ Col. 4, lines 2-14, [shows that market share is the primary objective function and is multiplied by a factor to get maximized gross profits, in this case, this calculation is analogous to multiplying in the claim limitation since they both yield an optimized result]). Ouimet et al '162 discloses this limitation in an analogous art for the purpose of using a multiplication factor to yield optimized results.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine a sales model for each demand group so that the optimization engine is able to calculate demand for said products by multiplying the market share model for said products with the sales model for the demand group to which the product belongs with the motivation of determining an optimized solution.


### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 703-305-1340. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 [After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Art Unit: 3623

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

  
A. R. B.  
June 21, 2004

  
TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
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